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| 09/537,754 | 03/30/2000 | Yong-Ha Hwang | 1316.1042 | 8427 |

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EXAMINER

LE, KIMLIEN T

| ART UNIT | PAPER NUMBER |
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2653

DATE MAILED: 04/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/537,754

Applicant(s)

HWANG, YONG-HA

Examiner

Kimlien T Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Response to Arguments

Applicant's arguments filed on July 1, 2002 have been fully considered but they are not deemed to be persuasive.

Applicant asserts on page 3 :

Nomura fails to teach or suggest that the identification result signal DTYPE received by the controller 12 is "an amplitude of the envelope signal at an off-track state of the loaded disc," emphasis added, as recited in independent claim 1. Rather, the identification result signal DTYPE used by the controller 12 of Nomura to control the servo controlling section 7, the readout signal controlling section 8, etc., is merely a difference between the maximum and minimum values of the amplitude signal obtained. There is no teaching or suggestion that the amplitude is obtained at the off-track state of the loaded disc.

The Examiner maintains that Nomura (U.S. Patent 6,298,024) discloses that the amplitude is obtained at the off-track state of the loaded disc (TES of Fig. 1); (column 5, lines 17-55). TES is tracking error signal that are used to control the position of the light beam to follow a target information track –off-track or on-track.

Also, Applicant asserts on pages 3 and 4 :

Nomura fails to teach or suggest, "comparing the amplitude of the envelope signal with at least one predetermined reference level," emphasis added, as recited in independent claim 12.

The Examiner maintains that Nomura (U.S. Patent 6,298,024) discloses "comparing the amplitude of the envelope signal with at least one predetermined reference level," (Fig. 12 b); (column 3, lines 19-45; column 6, lines 1-20).

Moreover, Applicant asserts on page 4 :

Independent claim 20 recites "a controller which detects an amplitude of the envelope signal only when a focusing operation of the disc being performed prior to a tracking control operation of the disc being performed, to discriminate the type of the loaded disc, wherein the controller controls the reproduction of the disc in accordance with the discriminated disc type."

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In contrast, Nomura identifies the type of the optical disc 1 on the basis of an amplitude indicating signal RFAMP, and outputs an identification result signal DTYPE. See column 5, lines 49-56. The subtracter 32 calculates the difference Vamp between the maximum V-peak and minimum V-bottom of the amplitude indicating signal RFAMP by subtracting an output of the lower envelope detector 31 from an output of the upper envelope detector 30. See column 6, lines 57-62. Accordingly, the amplitude indicating signal RFAMP is obtained at all times rather than "only when a focusing operation of the disc being performed prior to a tracking control operation of the disc being performed," as recited in independent claim 20. Accordingly, it is respectfully asserted that Nomura fails to teach or suggest all the claimed features of independent claim 20.

The Examiner maintains that Nomura (U.S. Patent 6,298,024) discloses all the claimed features of independent claim 20 because Nomura shows "a controller (20,21,12) which detects an amplitude of the envelope signal only when a focusing operation of the disc being performed prior to a tracking control operation of the disc being performed, to discriminate the type of the loaded disc, wherein the controller controls the reproduction of the disc in accordance with the discriminated disc type" (Figs.1,2,3 and 12 ; column 9 line 45- column 10 line 65).

Furthermore, Applicant asserts on page 4 :

Independent claim 25 recited "detecting an amplitude of the envelope signal only when a focusing operation of the disc is being performed prior to a tracking control operation of the disc being performed, to discriminate the type of the loaded disc, and controlling the reproduction of the disc in accordance with the discriminated disc type." The arguments presented above supporting the patentability of independent claim 12 are incorporated herein to support the patentability of independent claim 25 and related dependent claims. Accordingly, it is respectfully asserted that Nomura fails to teach or suggest all the claimed features of independent claim 25.

The Examiner maintains that Nomura (U.S. Patent 6,298,024) discloses all the claimed features of independent claim 25 because Nomura shows "detecting an amplitude of the envelope signal only when a focusing operation of the disc being performed prior to a tracking control operation of the disc being performed, to discriminate the type of the loaded disc, wherein the controller controls the reproduction of the disc in accordance with the discriminated

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disc type" (Figs.1,2,3 and 12 ; column 9 line 45- column 10 line 65).The examiner interprets

"Only" to be met by the disclosure at (column 10, lines 48-65).

Finally, Applicant asserts on page 6 :

However, similar to Nomura, Iwata is silent as to providing "a controller which detects an amplitude of the envelope signal at an off-track state of the loaded disc, and discriminates the type of the loaded disc using the detected amplitude," as recited in independent claim 1. There is no teaching or suggestion that the amplitude is obtained at the off-track state of the loaded disc. Furthermore, Iwata is silent as to providing "obtaining an envelope signal from an RF signal detected from one of discs which is loaded in the optical disc reproducer, at an off-track state of the loaded disc," as recited in independent claim 12. Furthermore, Iwata fails to teach or suggest "comparing the amplitude of the envelope signal with at least one predetermined reference level," emphasis added, as recited in independent claim 12. Rather, Iwata merely describes determining whether the reproduced signal is being normally reproduced, and if the reproduced signal is detected as noise, the switch 12 is changed over.

The examiner maintains that Nomura shows "a controller which detects an amplitude of the envelope signal at an off-track state of the loaded disc, and discriminates the type of the loaded disc using the detected amplitude", "obtaining an envelope signal from an RF signal detected from one of discs which is loaded in the optical disc reproducer, at an off-track state of the loaded disc," and "comparing the amplitude of the envelope signal with at least one predetermined reference level," (Figs.1,2,3 and 12 ; column 9 line 45- column 10 line 65) . Also, Nomura teaches that the controller controls rotation of the loaded disc at a speed slow enough to maintain a focusing state with respect to each of the plurality of different types of discs in the off-track state (column 11, lines 14-27)

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Nomura(US 6,298,024).

Regarding claim 1, see Figs. 1, 2 and 3 of Nomura which show an optical disc discrimination apparatus for use in an optical disc reproducer which reproduces data from a plurality of different types of discs with a single optical pickup, the optical disc discrimination apparatus comprising: a RF envelope generator (10) which generates an envelope signal from an RF signal read from one of the discs (1) which is loaded in the optical disc reproducer(11); and a controller (12,22) which detects an amplitude of the envelope signal at an off-track state of the loaded disc, and discriminates the type of the loaded disc using the detected amplitude (column 9 line 45- column 10 line 65).

With regard to claim 2, see Figs. 1, 2 and 3 of Nomura which show an optical disc discrimination apparatus of claim 1, wherein the RF envelope generator (10) generates the

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envelope signal by a peak hold and a bottom hold of the RF signal read from the loaded disc (column 5, line 66 - column 6, line 22).

With regard to claim 3, see Figs. 1, 2 and 3 of Nomura which show the optical disc discrimination apparatus of claim 1, wherein the off-track state is a state where only a focusing is accomplished before a tracking control of the loaded disc is performed (column 9, line 49 - 54; column 10, line 45 - 47; column 10, line 57 - 65 ; column 23, line 24 - 26).

With regard to claim 4, see Figs. 1, 2 and 3 of Nomura which show the optical disc discrimination apparatus of claim 3, wherein the controller comprises: an envelope amplitude detector which detects the amplitude of the envelope signal; and a disc discriminator which compares a level of the detected amplitude with at least one predetermined reference level and discriminates whether the loaded disc is a CD, a DVD ROM, or a DVD-RAM, based on the comparison (column 1, lines 47-60).

Regarding claims 5, 8 and 9, see Figs. 1, 2 and 3 of Nomura which show wherein the envelope amplitude detector detects a magnitude of peak-to-peak values of the n sample signals, and obtains the average value of the peak-to-peak values to determine the detected amplitude (column 15, lines 10-40).

With regard to claim 6, see Figs. 1, 2 and 3 of Nomura which show the optical disc discrimination apparatus of claim 4, wherein the at least one predetermined reference level is set based on conditions that a CD has a track pitch relatively larger than a DVD-ROM, thus having a larger change in the amplitude of the RF signal as an optical beam emitted by the optical disc reproducer traverses tracks thereof, and that a DVD RAM has no change in the amplitude of the RF signal as the optical beam emitted by the optical disc reproducer traverses the tracks thereof.

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(column 3, lines 45-60).

With regard to claim 7, see Figs. 1, 2 and 3 of Nomura which show the optical disc discrimination apparatus of claim 6, wherein the disc discriminator discriminates whether: the loaded disc is the CD if a level of the detected envelope amplitude is larger than a first one of the at least one predetermined reference level; the loaded disc is the DVD-ROM if the level of the detected envelope amplitude is smaller than the first predetermined reference level and larger than a second one of the at least one predetermined reference level; and the loaded disc is the DVD-RAM if the level of the detected envelope amplitude is smaller than the second predetermined reference level (column 10, lines 1-25).

With regard to claim 11, see Figs. 1, 2 and 3 of Nomura which show the optical disc discrimination apparatus of claim 4, wherein the controller controls rotation of the loaded disc at a speed slow enough to maintain a focusing state with respect to each of the CD, DVD-ROM and DVD-RAM in the off-track state (column 1, lines 55-60; column 10, lines 24-27).

With regard to claim 12, see Figs. 1, 11 and 12b of Nomura which show an optical disc discrimination method of discriminating a type of a disc for use in an optical disc reproducer which reproduces data from a plurality of discs with only a single optical pickup, the optical disc discrimination method comprising: (a) obtaining an envelope signal from a RF signal detected from one of discs which is loaded in the optical disc reproducer at an off-track state of the loaded disc; (b) detecting an amplitude of the envelope signal; (c) comparing the amplitude of the envelope signal with at least one predetermined reference level; and (d) discriminating whether the loaded disc is a CD, a DVD-ROM, or a DVD-RAM based on the comparison (column 3, lines 19-45; column 6, lines 1-20).

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With regard to claim 13, see Figs. 1, 11 and 12b of Nomura which show the optical disc discrimination method of claim 12, wherein the step (b) comprises: sampling the envelope signal between a maximum value and a minimum value into a predetermined number of sample signals at a zero cross interval; detecting the predetermined number of sample signals; and obtaining an average value of the detected predetermined number of sample signals to detect the amplitude (column 3, lines 19-45).

With regard to claims 14 and 15, see Figs. 5(a),(b), (c) and 6(b) of Nomura which show the optical disc discrimination method of claim 12, wherein the step (d) comprises discriminating the loaded disc as the CD, the DVD-ROM or the DVD-RAM, based upon a condition that a change in the RF signal amplitudes as an optical beam of the optical disc reproducer moves across tracks thereof differs from each other in the CD, the DVD, ROM, and the DVD-RAM, wherein a first one of the at least one predetermined reference level is larger than the amplitude of the RF signal detected from the CD, and a second one of the at least one predetermined reference level is smaller than the first predetermined reference level and larger than the amplitude of the RF signal detected from the DVD-ROM (column 10, lines 10-20).

With regard to claims 16 and 17, see Figs. 1, 11 and 12b of Nomura which show the optical disc discrimination method of claim 13, wherein the detecting of the predetermined number of sample signals comprises detecting a magnitude of peak-to-peak values of the predetermined number of samples; and the obtaining of the average value comprises obtaining the average value of the peak-to-peak values to detect the amplitude of the envelope signal (column 15, lines 10-40).

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With regard to claims 19, see Figs. 1, 11 and 12b of Nomura which show the optical disc discrimination method of claim 12, further comprising controlling a rotation of the loaded disc at a speed slow enough to maintain a focusing state with respect to each of the plurality of different types of discs in the off-track state (column 1, lines 55-60; column 10, lines 24-27).

With regard to claim 20, see Figs. 1, 2 and 3 of Nomura which show an optical reproducer which reproduces data from a plurality of different types of discs using a single optical pickup, the optical disc discrimination apparatus comprising: a data reproducing device (4) which reproduces the data by illuminating an optical beam on a loaded one of the optical discs, receive the reflected optical beam, to generate an RF signal; an RF envelope generator (20,21) which generates an envelope signal from the RF signal; and a controller (22) which detects an amplitude of the envelope signal only when a focusing operation of the disc being performed prior to a tracking control operation of the disc is being performed, to discriminate the type of the loaded disc, wherein the controller controls the reproduction of the disc in accordance with the discriminated disc type (column 9 line 45- column 10 line 65).

With regard to claim 21, see Figs. 1, 2 and 3 of Nomura which show an optical reproducer of claim 20, wherein the controller comprises: an envelope amplitude detector (22) which detects an amplitude of the envelope signal; and a disc discriminator (11) which compares a level of the detected amplitude with at least one predetermined reference level and discriminates whether the loaded disc is a CD, A DVD-ROM, or a DVD-RAM, based upon the comparison.

With regard to claim 22, see Figs. 1, 2 and 3 of Nomura which show the optical reproducer of claim 20, wherein the controller (12) controls rotation of the loaded disc at a speed

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slow enough to maintain a focusing state with respect to each of the plurality of different types of discs during the focusing operation (column 9, lines 49-54).

With regard to claim 23, see Figs. 1, 2 and 3 of Nomura which show the optical reproducer of claim 20, optical reproducer of claim 20, wherein the optical beam is initialized to 635-650 nm during the focusing operation of the disc performed prior to the tracking control operation of the disc (column 9, lines 49-54).

With regard to claim 24, see Figs. 1, 2 and 3 of Nomura which show the optical reproducer of claim 20, further comprising: an RF amplifier(201,211) to amplify the RF signal output from the data reproducing device; a focusing servo (7)to output a focus control signal in accordance with a focus error signal of the RF signal and the discriminated disc type; a pickup actuator (4) to drive the data reproducing device for focusing based upon the focus control signal; a spindle motor to rotate the loaded disc in accordance with a servo control signal; and a spindle servo to generate the servo control signal in accordance with the discriminated disc type and the amplified RF signal.

With regard to claim 25, see Figs. 1, 2 and 3 of Nomura which show the optical disc reproduction method of reproducing data from a plurality of different types of discs using a single optical pickup, the optical disc reproduction method comprising: reproducing the data by illuminating an optical beam on a loaded one of the optical discs, receive the reflected optical beam, to generate an RF signal; generating an envelope signal from the RF signal; and detecting an amplitude of the envelope signal only when a focusing operation of the disc being performed prior to a tracking control operation of the disc is being performed, to discriminate the type of the

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loaded disc, and controlling the reproduction of the disc in accordance with the discriminated disc type(column 9 line 45- column 10 line 65).

With regard to claim 26, see Figs. 1, 2 and 3 of Nomura which show the optical disc reproduction method of claim 25, wherein the discriminating of the type of disc comprises comparing a level of the detected amplitude with at least one predetermined reference level and discriminating whether the loaded disc is a CD, A DVD-ROM, or a DVD-RAM, based upon the comparison.

With regard to claim 27, see Figs. 1, 2 and 3 of Nomura which show an optical disc reproduction method of claim 25, further comprising controlling rotation of the loaded disc at a speed slow enough to maintain a focusing state with respect to each of the plurality of different types of discs during the focusing operation.

With regard to claim 28, see Figs. 1, 2 and 3 of Nomura which show optical disc reproduction method of claim 25, further comprising initializing the optical beam to 635-650 nm during the focusing operation of the disc performed prior to the tracking control operation of the disc.

With regard to claims 10 and 18 , Nomura shows all the features of claims 3 or 12. Also, Nomura show that the controller controls rotation of the loaded disc at a speed slow enough to maintain a focusing state with respect to each of the plurality of different types of discs in the off-track state (column 11, lines 14-27).

Points of Contact

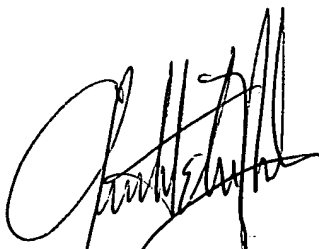
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimlien T Le whose telephone number is 703 305 3498. The examiner can normally be reached on M-F 8a.m-5p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Korzuch William can be reached on 703 305 6137. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9314 for regular communications and 703 872 9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305 3900.

Kimlien Le
April 7, 2003



ARISTOTELIS M. PSITOS
PRIMARY EXAMINER
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